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THE SOUTH AMERICAN CRICETIDÆ DESCRIBED BY FELIX AZARA

BY G. H. H. TATE

Because of the scientific names given them by Desmarest and Fischer, the mice whose descriptions were so meticulously recorded by Azara in his 'Essais' (1801)[1] and his 'Apuntamientos' (1802)[2] are to be reckoned among the key species in systematic work among the South American Cricetidæ. For this reason it has been thought desirable to draw up a careful analysis of the forms and to set forth any conclusions that can be reached regarding them, in the light of modern nomenclatorial standards.

Four points stand out: (1) Azara used no scientific names; (2) in his two editions he used in most cases different common names for the same animal; (3) he described certain forms in the 'Apuntamientos' which were omitted from the 'Essais'; and (4) besides Paraguay his localities include Uruguay and the region well to the south of Buenos Aires.

The two authors[3] who applied binomials to Azara's descriptions used in every case the generic blanket-name *Mus* followed by a specific name, usually derived from Azara's local name. The intention of the present inquiry is (1) to compare the species of Azara's two works and (2) to attempt to ascertain where, in the modern system of genera, Azara's mice should be placed.

The following is a list of genera which occur, or may reasonably be inferred to occur, in the region worked by Azara:

Reithrodon
Graomys
Eligmodontia
Hesperomys
Holochilus
Nectomys
Scapteromys
Oryzomys
Œcomys ?
Rhipidomys
Akodon
Oxymycterus

[1] 'Essais sur l'Histoire Naturelle des Quadrupèdes de la Provincia du Paraguay,' II, Paris.
[2] 'Apuntamientos, para la Historia Natural de los Quadrúpedos del Paraguay y Rio de la Plata,' Madrid.
[3] Desmarest worked only with the 'Essais' and his names in 'Nouveau Dict. d'Hist Nat.,' 1819, XXIX, refer particularly to that work; Fischer named two species of the 'Apuntamientos' in his 'Synopsis Mammalium,' 1829.

For convenience I have considered Azara's rats in the order used in the 'Essais,' adding afterwards the three species which are described only in the 'Apuntamientos.' If full descriptions are desired, the original works must be consulted, but when any marked divergence is apparent in the descriptions, I have placed those parts of the French and Spanish versions in left and right parallel columns under each species. The colloquial names used by Azara are printed in small capitals.

Mus cephalotes Desmarest

(Based upon the French Edition)

NAME.—RAT SECONDE OU RAT A GROSSE TÊTE	No. XLVII.—COLA IGUAL AL CUERPO
COLOR.—Brown from muzzle to tail; sides of body and head brighter, with a touch of cinnamon	A mixture of dark and plumbeous, and the tips cinnamon brown. Fur quite long, 6–8 lines

The description of *cephalotes* in general, its 27 mm. hind foot, cinnamon-brown color, and tail equal in length to body, appear to fit the genus *Oryzomys* closely. *Holochilus*, the only other possibility, has the hind foot at least 1½ inches (38 mm.) in length.

Mus angouya Desmarest

(Based upon the French Edition)

NAME.—RAT TROISIÈME OU ANGOUYA	No. XLVIII.—ANGUYA
COLOR.—Tarsus . . . olive . . .	Tarsus . . . brownish (trigueño) . . .

In *angouya* we are again no doubt dealing with *Oryzomys*. Azara himself doubted the distinctness of this form from *cephalotes*. While the animal is considerably larger in size than *cephalotes*, the 30 mm. hind foot again precludes its being a *Holochilus*. Its color was quite bright cinnamon.

Mus auritus Desmarest

(Based upon the French Edition)

NAME.—RAT QUATRIÈME OU RAT OREILLARD	No. XLV.—OREJON
PLACE.—Pampas, south of Buenos Aires.	(p. 85). At 36° [about 100 miles south of city of Buenos Aires] I caught one with truncated tail. Note.—The OREJON was described from a larger specimen from 32½° [latitude of Entre Rios]. The measurements differ, but the descriptions tally fairly closely

I have previously concluded[1] that *auritus* was a *Reithrodon*. Azara's description of its very large head, ears, and eyes, as well as its dimensions and coloration, seems conclusive.

Mus rufus Desmarest

(Based upon the French Edition)

NAME.—RAT CINQUIÈME OU RAT ROUX	No. XLIV.—HOCICUDO
PLACE.[2]	Taken (shot) in an arroyo at 32½° [latitude of Entre Rios]
PELAGE.[2]	Short, 5 lines on the back, rather rough.
COLOR.[2]	Very dark from nose to tail, but in the tips distinctly cinnamon. Sides of body and jaw and outer surfaces of limbs bright cinnamon. So also underparts, but more whitened

The following is taken from the description upon which *rufus* was based.

COLLECTOR.—My friend Noseda sent one in brandy, where it remained forgotten several months. The liquor had run out... (p. 96). I think these colors were rather altered by the brandy	My friend Noseda caught one on the bank of a stream and sent it to me in spirit. I received it much disfigured but could not doubt it was the same species. . . .

In *rufus* we have apparently an *Oxymycterus* which had been kept in spirit and then dried out. If Azara was right in his assertion that Noseda's animal was the same species as that which he himself shot in the latitude of 32½° S. [Entre Rios], then *rufus* is a species with dark dorsal parts, bright cinnamon sides and limbs, and whitish underparts. No tarsal length was given. Azara, writing of the RAT ROUX, said (p. 94) that he had seen only the one which he was describing, and that "the muzzle did not appear so acute as that of the common rat"; whereas he named his HOCICUDO "for the length and acuteness of the nose"; and had he not referred (p. 82) also to the specimen caught by Noseda, one would scarcely think them the same. The only possible alternative genera are *Scapteromys* and *Holochilus*, to neither of which, in my opinion, the description conforms.

Mus nigripes Desmarest

(Based upon the French Edition)

NAME.—RAT SIXIÈME OU RAT A TARSE NOIR	No. XLIX.—COLILARGO
EAR.—(Description in part omitted)	Full description
COLOR.—Tarsus . . . colored inky black	As dark as ink beneath

[1]Amer. Mus. Novit., 1932, No. 529.
[2]This specimen, upon which "Hocicudo" was based, was not mentioned in the French edition.

Nigripes appears to have been a small brown *Oryzomys*—possibly an *Oligoryzomys*—with tail slightly longer than body. The species should be identifiable.

Mus laucha Desmarest

(Based upon the French Edition)

NAME.—RAT SEPTIÈME OU LAUCHA	No. LI.—LAUCHA
PLACE.—Two in garden at Buenos Aires and one in pampas	All small mice are so named at Buenos Aires and Montevideo
MEASUREMENTS.—Total length 4″; tail 1¾″.	Total length 4¾″; tail 2″ . . . .
VIBRISSÆ.	Very long
COLOR.—Upper parts plumbeous as in common rat, but with some difference	Upper parts mixed dark and cinnamon
FEMALES.—I have a female 3¾″ long and another 3″ long	In a female taken January 22, I found 6 embryos . . . .

The very small size of *laucha* indicates either *Hesperomys* or *Eligmodontia*. From the rather short tail I am inclined to choose *Hesperomys*.

The following three species were not included in the 'Essais' and consequently escaped the attention of Desmarest. In 1829, however, J. B. Fischer named two of them in his 'Synopsis Mammalium,' so that only one of all Azara's mice, the COLIBREVE, escaped being given a special scientific name. I give below a translation of portions of the descriptions:

No. LXVI.—COLIBREVE

. . . I have seen only the present one, which the dogs caught in the fields of Montevideo. . . . Length 6½ inches; tail 2¼ and appearing quite slender. . . . Tarsus 9 lines with the claw, and dark beneath. . . . All lower parts pearl-colored, the remainder dark, but the tips of the hairs are lighter and reduce the dark color.

This rat, to which neither Desmarest nor Fischer gave a name, appears referable either to *Akodon* or to young *Oxymycterus*. I am inclined to select *Akodon* as probably the genus, in which case it is in all likelihood referable to *A. obscurus* Waterhouse of Uruguay.

No. L.—AGRESTE [field mouse]

. . . two identical [specimens] in 30½° (latitude of Entre Rios) . . . it is a field mouse. . . . Length 6¼ inches; tail 2⅝. . . . The tarsus measures 9 lines with claw and is whitish . . . the pelage is 4 lines long and that of the head, upper parts and sides is mixed dark and cinnamon, the tips being of the latter color. In the under parts is a dull whitish which reaches a little on to the sides. Tail dark.

Fischer in 1829 (p. 325) applied the names *Mus? (sic) azaræ* to the AGRESTE.

I am inclined to consider this description, which fits no other genus very closely, that of an *Akodon*.

No. LII.—BLANCO DEBAXO

. . . I killed two identical [specimens] under two hides stretched in a garden at 30½° (latitude of Entre Rios) . . . undoubtedly a field mouse . . . I describe it with the former [*laucha*] before me . . . length 5 inches; tail 1 11/12 . . . tail shorter than in the former [*laucha*] . . . The fur is more appressed, soft, fine and short, white on the under parts, and the rest a mixture of dark and whitish, with less cinnamon than that mentioned; but on the sides white dominates. . . . Tarsus 8 lines with claw, and white beneath.

Fischer in 1829 (p. 326) applied the name *Mus ? (sic) dubius* to the BLANCO DEBAXO.

This animal can scarcely be fitted into any genus except *Hesperomys* (in restricted sense). Azara himself compared it with *H. laucha* and among other contrasts noted its shorter tail. We may then write instead of *Mus dubius* Fischer, *Hesperomys dubius* (Fischer).

In my opinion Azara described 1 *Reithrodon* (*auritus* Desmarest), 2 *Hesperomys* (*laucha* Desmarest, *dubius* Fischer), 3 *Oryzomys* (*cephalotes* Desmarest, *nigripes* Desmarest and *angouya* Desmarest), 2 *Akodon* (COLIBREVE and *azaræ* Fischer), and 1 *Oxymycterus* (*rufus* Desmarest). When his descriptions are carefully checked against present-day concepts of these genera, there is little difficulty in most cases in determining to which genus a given description belongs. It is difficult to understand how he failed to obtain such large forms as *Nectomys* and *Holochilus*.

The general conclusions reached, based upon the foregoing discussion, may be set forth in tabular form:

'ESSAIS'	'EARLY SCIENTIFIC' NAME	'APUNTAMIENTOS'	PROBABLE MODERN GENUS
RAT SECONDE OU RAT A GROSSE TÊTE	*Mus cephalotes* Desmarest	COLA IGUAL AL CUERPO	*Oryzomys*
RAT TROISIÈME OU ANGOUYA	*Mus angouya* Desmarest	ANGUYA	*Oryzomys*
RAT QUATRIÈME OU OREILLARD	*Mus auritus* Desmarest	OREJON	*Reithrodon*
RAT CINQUIÈME OU RAT ROUX	*Mus rufus* Desmarest	HOCICUDO	*Oxymycterus*
RAT SIXIÈME OU RAT A TARSE NOIR	*Mus nigripes* Desmarest	COLILARGO	*Oryzomys*
RAT SEPTIÈME OU LAUCHA	*Mus laucha* Desmarest	LAUCHA	*Hesperomys*
		COLIBREVE	*Akodon*
	Mus azaræ Fischer	AGRESTE	*Akodon*
	Mus dubius Fischer	BLANCO DEBAXO	*Hesperomys*